Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

319/Clean Water Partnership/ Total Maximum Daily Loads

Semi-Annual Report for Reporting Year 2011

Reporting Period: ☒ January 1 through June 30, 2011 (Due August 1, 2011)
☐ July 1 through December 31, 2011 (Due February 1, 2012)

All information is required by U.S. Environmental Protection Agency (EPA). Do not leave blanks. This report form can be typed using your computer. Use the "**tab**" key to move through the fields of this form. Enter responses using text and check boxes as indicated. Keep a copy for your records.

I. General Report Information

1.	Project Title:	**Redwood and Cottonwood River Watershed Conservation and Nutrient Reduction Project**		
2.	Project Sponsor:	**Redwood-Cottonwood Rivers Control Area (RCRCA)**		
3.	Project Representative:	**Douglas A. Goodrich, Director, RCRCA**		
4.	Email Address:	Douglas.goodrich@mn.nacdnet.net		
5.	Loan Sponsor (if applicable):	**Brown, Cottonwood, Lyon, Murray and Redwood counties**		
6.	Contract Number:	**B39161**	Loan Number:	**SRF0179 – SRF0183 (remainder)**
7.	MPCA Project Manager:	**Mark Hanson**		
8.	Contract Start Date:	**July 1, 2009**	Contract End Date:	**August 30, 2013**
9.	Best Management Practice (BMP) Name (Refer to BMP List):	**Onsite Wastewater Treatment Systems, Filter Strip, Dam – Multi Purpose repair, Grassed Waterway, Terrace, Water and Sediment Control Basin, Subsurface Drain (Alternate Tile Inlet)**		

10. **319/Clean Water Partnership (CWP) only** - Nonpoint Source (NPS) Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category	**Agriculture, Animal Feeding Operations, Urban Runoff, Hydromodificaton, Historical Pollutants**	**Non-Irrigated Crop Production, Pasture Grazing, Municipal and Residential Runoff, Channel Erosion/Incision**	**Resource Extraction**

11. **319/CWP only** - NPS Functional Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category	**BMP Design/Implementation, Water Quality Monitoring**	**BMP Performance Assessment, Water Quality Trend Assessment, BMP Effectiveness Monitoring**	**Nonpoint Source Program Coordination, Watershed Modeling/Planning**

12.	Waterbody type (refer to NPS Waterbody Type):	**Rivers**		
13.	Hydrologic unit code (12 digits):	**07020006(0000-9999), 07020008(0000-9999)**	Latitude-longitude:	**Lat. 44°17'29" Long. 99°26'24**
14.	**319/ CWP only:** Type of pollutant(s) addressed (refer to NPS Pollutants):	**Nutrients, Pathogens, and Sedimentation**		
15.	Ecoregion (refer to NPS Ecoregion):	**Western Corn Belt Plains**		
16.	Basin name (check all that apply):			

- ☐ Lake Superior
- ☐ Lower Mississippi/Cedar
- ☐ Upper Mississippi
- ☒ Minnesota
- ☐ Rainy
- ☐ Red River
- ☐ Des Moines
- ☐ Missouri
- ☐ St. Croix

II. Project Description

1. Project Description Summary (taken from work plan summary) – Include at least two paragraphs that briefly summarize the project scope, the processes and the events that occurred **before** this reporting period.

The watersheds of the Redwood River and Cottonwood River encompass approximately 2,020 square miles in the Minnesota River Basin. The major tributaries of the Redwood and Cottonwood Rivers originate on the Coteau des Prairies, flowing eastward approximately 152 miles to the Minnesota River with a drop in elevation of about 750 feet. This topography results in periodic spring and summer flooding in the central portion of the watershed. At times, damages are severe. A related implication is rapid transport of sediment and attached nutrients from inadequately treated cropland during spring snowmelt and spring and summer rainfall events.

The 1992 (Redwood River) and the 1999 (Cottonwood River) MPCA approved diagnostic studies and implementation plans defined characteristics of specific pollutants, the processes affecting their transport, and appropriate measures to reduce their delivery to both rivers. Priority management areas were selected based on relative contributions to the total sediment and nutrient load in the Rivers. These locally developed Implementation Plans were created to direct restoration activities in the watersheds until individual TMDL(s) are created and approved. The purpose of this project is to facilitate watershed land-use changes within these watersheds that will lead to reductions necessary to meet goals set forth in the Lower Minnesota River Dissolved Oxygen TMDL. Implementing groundwater infiltration and phosphorus reducing conservation practices through new funded best management practices will help achieve reductions outlined in the TMDL plan and the respective rivers' implementation plans.

The project is administered by the Redwood-Cottonwood Rivers Control Area (RCRCA). RCRCA, established in 1983, is a Joint Powers Organization of eight counties and their Soil and Water Conservation Districts. (For additional information, go to www.rcrca.com) RCRCA has a proven history backed with an extensive database, a long-term monitoring program, and an organizational structure that remains supportive and flexible to ensure that projects such as the Redwood River Clean Water Project and the Cottonwood River Restoration Project are successful. This success can be viewed in the 2001 Final Report, "Evolution of Watershed Restoration", which can be found at www.rcrca.com.

Annual FLUX estimates from the Redwood River sampling site above Lake Redwood showed a total phosphorus delivery of 116.8 tons annually to the Minnesota River. This is equal to .19 tons per square mile loss of phosphorus included with 114.5 tons per square mile loss of sediment. This is directly related to the turbidity impairment and contributes to the Minnesota River phosphorus loading (See http://www.pca.state.mn.us/water/tmdl.html).

Annual FLUX estimates from the Cottonwood River sampling site at New Ulm showed an average total phosphorus delivery of 180.51 tons annually to the Minnesota River. This is equal to .14 tons per square mile loss of phosphorus included with 139.67 tons per square mile loss of sediment. This is directly related to the turbidity impairment and contributes to the Minnesota River phosphorus loading (See http://www.pca.state.mn.us/water/tmdl.html).

Recreational opportunities in the project area are limited by degraded water quality, channel obstructions, limited access, and a general lack of awareness by watershed residents. Potentially, the project area can be a major recreational resource.

Long term monitoring efforts from 1990 to present have identified TMDL impairments and the current/pending (2008) listings show that the work is not finished. With the TMDL plan approved on the lower Minnesota River for phosphorus reduction, it is important to continue the implementation of best management practices that will reduce the total phosphorus contribution from the project area and work to de-list the lower Minnesota River Dissolved Oxygen TMDL impairment.

Nearly all wetlands have been drained by a highly efficient and interconnected artificial drainage system. This drainage system has allowed agriculture, the primary land use, to flourish. Corn and soybeans are the main crops

grown in the watershed.

The study's primary research tool was a water quality monitoring program used to gather data at 4 main stem locations and 10 tributary sites. Stream bank erosion assessments were made at several locations along the lower reach of the Redwood and Cottonwood Rivers. Fishery surveys were used to assess populations and species diversity. Land use and physical characteristics of the watersheds were analyzed through application of Geographic Information System (GIS) data layers. These evaluations were supplemented in the Cottonwood River by field observations using the tailored integrated stream and watershed assessment (TISWA) methodology.

The Redwood and Cottonwood River Phase I Diagnostic Studies and their Implementation Plans are on file at MPCA. Please refer to them and the Quality Assurance Project Plans (QAPP's) which are also on file for further information.

2. Specific Project Goals – Include numeric, quantifiable goals for environmental improvement, the number of Best Management Practices to be installed, **pollutant reductions** as well as programmatic and social goals.

The goal of this project is to continue best management implementation according to the Phase I Implementation Plans and implement phosphorus reducing conservation practices that will help achieve the Lower Minnesota River dissolved oxygen TMDL. This work plan is projected to reduce phosphorus reaching the Minnesota River by 1.139 tons annually or 911,683 pounds of aquatic plant growth annually (plus 1,960.50 tons of sediment). This work plan will administer grant funds from 2009 through 2013 to achieve the implementation goals through these objectives: 1. BMP Technical Assistance and Implementation, and 2. Fiscal Management and Administration.

1. BMP Technical Assistance and Implementation:

- **Promote cost-share availability and identify erosion sensitive projects in priority area.**
  Task A Cost: Grant- $33,060.00 Match- $0.00
- **BMP cost share, incentives, and project implementation.**
  Task B Cost: Grant- $197,340.00 Match- $0.00
- **Promote and Implement MPCA low interest loan program.**
  Task C Cost: Grant- $0.00 Match- $270,000.00

Objective 1 Cost: Grant- $230,400.00 Match- $270,000.00 Total- $500,400.00

2. Grant Facilitation, Report Writing and Public Input/Rollout Sessions

- **Conduct public involvement/informational meetings and meet all grant requirements**

Objective 2 Cost: Grant- $23,040.00 Match- $0.00 Total- $23,040.00

3. Methods to achieve goals:

The Redwood and Cottonwood Rivers, as a result of continuous monitoring, has been divided into priority areas that have been identified as contributing a disproportionate share of sediment and nutrients. With this prioritization, a ranking sheet has been developed to rank each project application to ensure that it will provide a substantial reduction of pollutants. Since 2000, the projects that have been implemented have been tracked by total cost of the project, the landowners' share of the cost, and the reductions achieved by each project. With this data, a matrix has been developed to estimate the total cost per pollutant reduction. This matrix is used to estimate the number of projects needed and the pollutant reductions that can be achieved. By implementing projects in priority areas selected by a long-term monitoring program and using implemented project information to estimate cost and effectiveness of each type of BMP, the project can ensure that the goals and objectives will be met and the efficiency and pollutant reduction benefits of each BMP will be maximized.

Several evaluation methods, in addition to the monitoring program are necessary to measure Project success. Methods used in the implementation plan have been selected to evaluate different components and outcomes of the plan in different ways.

An established best management practice (BMP) tracking system will be used to measure BMP adoption rates within this project area. Information contained in this system will include records of initial contacts with landowners or operators; the status of each BMP from initial sign-up to construction; and the potential sediment and nutrient reduction obtained as a result of the BMP, using the BWSR/MPCA e-link program. This information will be entered into the watershed GIS system maintained by RCRCA. Other program evaluation tools will be developed to evaluate other key activities within each objective of the implementation plan as needed.

III. Semi-annual Report Information

1. Project activities completed during last six (6) months according to the program elements or tasks:

Finished the work plan and worked to sign up additional BMPs for construction. Best Management Practices – One

	(1) cost share contract for a stream bank stabilization project was installed in the Redwood River Watershed to help stem sediment delivery to the Redwood River. These BMPs have the potential to reduce phosphorus losses by 857 pounds per year and reduce net sediment in surface water by 857 tons per year.
2.	Challenges faced (optional): **Short construction due to flood conditions and early winter (2010)**
3.	Summary of monitoring data collected: **N/A**
4.	Have all monitoring stations been established in STORET? ☒ Yes ☐ No
5.	Is the data being routinely submitted for storage into STORET? ☐ Yes ☐ No Last submittal date: **N/A**
6.	Is the data being annually entered into E-Link? ☒ Yes ☐ No Date last entered: 06-30-2011
7.	Identify any significant **findings** and **results** of the project to date, as well as any unanticipated findings: **See Question 1.**
8.	Describe specific (quantifiable, if possible) results achieved during this period: **See Question 1.**
9.	Summarize any work plan changes: This grant was amended for an increase in BMPs $92,900.00 (Grant) (1B); DIR $3,400.00 (Grant) (2A); Office Asst. $3,000.00 (Grant) (2A); Supplies $2,000.00 (Grant) (2A); Landowner Match-25% $62,640.00 (MATCH) (1B); Septic Loan $30,000.00 (MATCH) (1C) - Funds would be spent pursuant to the work plan, essentially an amendment for funds. – (Spring of 2011)
10.	List anticipated activities for next six (6) months: Over the next 6 months, we will continue to develop and implement BMP projects.
11.	List all products (documents, pamphlets, videos, maps, etc.) produced in this reporting period.

IV. Expenditure Information for this Period

CWP: Provide a copy of the Expenditure Report with cumulative expenditures and this period's expenditures budget balances by work plan program element. The format for the Semi-Annual Expenditure Report is available on the Web at: http://www.pca.state.mn.us/publications/wq-cwp7-09.xls.

☒ Expenditure Report attached

CWP, 319, and TMDL - Complete the table below:	**Amount**
Total Grant Amount:	$354,740.00
Total Match Amount (if applicable)	$362,640.00
Total Project Amount:	**$717,380.00**
Cumulative Grant Expenditures through this period:	$66,752.29
Cumulative Match Expenditures through this period:	$193,913.03
Total Cumulative Expenditures through this period:	**$260,665.32**

Date form completed: **7/30/2011**

Please submit to: Your project manager **Mark Hanson**

PROJECT TITLE: Clean Water Legacy-Redwood and Cottonwood River Watershed Conservation and Nutrient Reduction Project #B39161
BUDGET/EXPENDITURES AS OF June 30, 2011

Objectives	unit cost	Quantity Exp/budget	Inkind Budgeted	Cash Budgeted	Loan Budgeted	Total Budgeted	Cumulative Inkind Expended	Cumulative Cash Expended	Cumulative Loan Expended	Cumulative Total Expended	Inkind Budget Balance	Cash Budget Balance	Loan Budget Balance	Total Budget Balance
Objective 1) BMP Technical Assistance and Implementation														
Task A. Promote, contacts, and install selected BMP's						$0.00				**$0.00**	$0.00	$0.00	$0.00	**$0.00**
RCRCA Technical Assistance from Clean Water Legacy	$30.00/hr.	1102 hr.		$33,060.00		$33,060.00				**$0.00**	$0.00	$33,060.00	$0.00	**$33,060.00**
						$0.00				**$0.00**	$0.00	$0.00	$0.00	**$0.00**
Task B. BMP Cost –Share, Incentives, and Implementation						$0.00				**$0.00**	$0.00	$0.00	$0.00	**$0.00**
Sediment Reduction BMPs (Up to 75% Cost-share) (Landowner Match)			$62,640.00	$210,240.00		$272,880.00	$20,383.85	$65,355.09		**$85,738.94**	$42,256.15	$144,884.91	$0.00	**$187,141.06**
Filter Strips Incentive	$2,000.00/acre	40.00		$80,000.00		$80,000.00				**$0.00**	$0.00	$80,000.00	$0.00	**$80,000.00**
						$0.00				**$0.00**	$0.00	$0.00	$0.00	**$0.00**
Task C. (SRF0179-183) Septic Match	$7,500.00 per	24.00	$180,000.00			$180,000.00	$173,529.18			**$173,529.18**	$6,470.82	$0.00	$0.00	**$6,470.82**
Task C. (SRF0163-168) Septic Match	$7,500.00 per	16.00	$120,000.00			$120,000.00				**$0.00**	$120,000.00	$0.00	$0.00	**$120,000.00**
Total Objective 1			$362,640.00	$323,300.00	$0.00	$685,940.00	$193,913.03	$65,355.09	$0.00	$259,268.12	$168,726.97	$257,944.91	$0.00	$426,671.88
Objective 2) Grant Facilitation														
Tasks A; B														
Executive Director	$26.00/hr	644.62 hr.		$16,760.00		$16,760.00				**$0.00**	$0.00	$16,760.00	$0.00	**$16,760.00**
Support Staff	$20.50/hr	399.02 hr.		$8,180.00		$8,180.00		$1,397.20		**$1,397.20**	$0.00	$6,782.80	$0.00	**$6,782.80**
Office Supplies	$666.67	3 yrs		$2,000.00		$2,000.00				**$0.00**	$0.00	$2,000.00	$0.00	**$2,000.00**
Misc. Admin. Services/Expenses	$1,500.00	3 yrs		$4,500.00		$4,500.00				**$0.00**	$0.00	$4,500.00	$0.00	**$4,500.00**
						$0.00								
Total Element 2			$0.00	$31,440.00	$0.00	$31,440.00	$0.00	$1,397.20	$0.00	$1,397.20	$0.00	$30,042.80	$0.00	$30,042.80
Element 3														
Total Element 3														
ITEMIZED PROGRAM ELEMENT BUDGET														
	Total Element 1		**$362,640.00**	**$323,300.00**	**$0.00**	**$685,940.00**	**$193,913.03**	**$65,355.09**	**$0.00**	**$259,268.12**	**$168,726.97**	**$257,944.91**	**$0.00**	**$426,671.88**
	Total Element 2		**$0.00**	**$31,440.00**	**$0.00**	**$31,440.00**	**$0.00**	**$1,397.20**	**$0.00**	**$1,397.20**	**$0.00**	**$30,042.80**	**$0.00**	**$30,042.80**
	Total Element 3		**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Project Grand Total			**$362,640.00**	**$354,740.00**	**$0.00**	**$717,380.00**	**$193,913.03**	**$66,752.29**	**$0.00**	**$260,665.32**	**$168,726.97**	**$287,987.71**	**$0.00**	**$456,714.68**

BMP Cost Share Tracking as of June 2011

GRANT: B39161 "CWL 3" **Grant to Expire 8-31-13**

SPOKEN FOR/NOT SPENT: $ 35,300.00 **Grant Value $290,240.00**

SPENT: $ 65,355.09

LEFT TO SPEND: $ 96,684.91

county	wtrshd_name	grant_id	cont_num	coop_l_name	coop_f_name	coop_adrss	city	state	zip	t_r_s	ws_id	est_cost	actual_cost	cost_share	partial_pay	partial_pay_date	final_pay	final_pay_date	bmp	bmp_length
Lyon	Redwood	B39161	09CWL319-01-01	City of Marshall		344 W. Main Street	Marshall	MN	56283	**T111 R41 S07**	27043	$210,000.00		$ 16,500.00					580	300
Lincoln/AREA II	Redwood	B39161	09CWL319-02-01	Gilbert	Calvin	1893 US HWY 75	Lake Benton	MN	56149	**T110 R46 S14**	27005	$ 32,580.90	$ 31,448.68	$ 24,435.68			$23,586.51	9/20/2010	378	
Lyon	Redwood	B39161	09CWL319-03-01	Dubbeldee	Leon	2267 Co. Rd. 25	Lynd	MN	56157	**T111 R42 S33**	27043	$ 60,864.00	$ 52,191.43	$ 45,648.00	$37,565.05	3/21/2011	$ 1,578.53	6/20/2011	580	400
Lyon	Redwood	B39161	09CWL319-03-01	Dubbeldee	Leon	2267 Co. Rd. 25	Lynd	MN	56157	**T111 R42 S33**	27043		$ 3,500.00		$ 2,625.00	6/20/2011	$ -		580	
Redwood	Redwood	B39161	09CWL319-04-01	Fuhr	Darrell	121 Burr Oak Road	Redwood Falls	MN	56283	**T112 R37 S27**	27035	$ 700.00		$ 700.00					393	
Redwood	Redwood	B39161	09CWL319-05-01	Fuhr	David	25338 290th Street	Wabasso	MN	56293	**T112 R37 S27**	27035	$ 400.00		$ 400.00					393	
Redwood	Cottonwood	B39161	09CWL319-06-01	Kuehn	Gary	30332 210th Street	Wabasso	MN	56293	**T110 R36 S08**	29057	$ 1,600.00		$ 1,600.00					393	
Redwood	Cottonwood	B39161	09CWL319-07-01	Kuehn	Gary	30332 210th Street	Wabasso	MN	56293	**T110 R36 S09**	29057	$ 3,150.00		$ 3,150.00					393	
Redwood	Cottonwood	B39161	09CWL319-08-01	Flesner	Terry	17889 Bunker Avenue	Walnut Grove	MN	56180	**T110 R39 S27**	29039	$ 3,350.00		$ 3,350.00					393	
Redwood	Cottonwood	B39161	09CWL319-09-01	Ourada	Terence	17303 State Hwy 68	Lucan	MN	56255	**T111 R38 S20**	29033	$ 1,750.00		$ 1,750.00					393	
Redwood	Cottonwood	B39161	09CWL319-10-01	Rossenberger	Gladys	PO Box 227	Sanborn	MN	56083	**T109 R36 S14**	29014	$ 4,600.00		$ 4,600.00					393	
Redwood	Redwood	B39161	09CWL319-11-01	Rohlik	Charles	414 Dewey Street	Seaforth	MN	56287	**T112 R37 S29**	27032	$ 3,250.00		$ 3,250.00					393	